

WHAT IS CLAIMED IS:

1. A conditioned data visualizing system usable to view conditioned data having a plurality of dimensions and a plurality of measures, comprising:

a workflow control having a plurality of workflow control entries, each workflow control entry associated with a predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data; and

a display manager capable of displaying, on a display device, a plurality of data visualization views and the workflow control;

wherein, when a workflow control entry is selected for viewing, the display manager accesses a portion of the conditioned data based on the predetermined set of the at least one dimension of the plurality of dimensions of the conditioned data and the at least one measure of the plurality of measures of the conditioned data associated with the selected workflow control entry and generates and displays at least one of the plurality of data visualization views, each displayed data visualization view generated based on at least a subset of the accessed portion of the conditioned data.

2. The conditioned data visualizing system of claim 1, wherein:

the workflow control further comprises a plurality of workflow control class entries; and

for each of at least some of the workflow control class entries, at least some of the workflow control entries are associated with that workflow control class entry.

3. The conditioned data visualizing system of claim 2, wherein each of the workflow control class entries can be selectively opened or closed, such that, when a workflow control class entry is opened, the display manager displays any workflow control entries associated with that workflow control class entry in the workflow control, and when that workflow control class entry is closed, the display manager removes the workflow control entries associated with that workflow control class entry from a display of the workflow control.

4. The conditioned data visualizing system of claim 3, wherein the display manager displays the workflow control entries associated with an opened

workflow control class entry in the workflow control in a nested manner under that opened workflow control class entry.

5. The conditioned data visualizing system of claim 2, wherein:

each workflow control class entry has a selection icon associated with that workflow control class entry, and

when the selection icon associated with a particular workflow control class entry is selected, the display manager toggles that workflow control class entry between being open and being closed.

6. The conditioned data visualizing system of claim 2, further comprising an association properties table having a plurality of entries, each entry associated with one of the plurality of workflow control entries and containing data identifying the predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data for that one of the plurality of workflow control entries and data identifying the workflow control class entry to which that one of the plurality of workflow control entries is associated.

7. The conditioned data visualizing system of claim 6, further comprising means for creating a new entry in the association properties table, for creating a new workflow control entry that is associated with the new entry in the association properties table and with a predetermined one of the plurality of workflow control class entries, and for adding data to the new entry identifying a new predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data based on the dimensions and measures of the conditioned data currently displayed on the display by the display manager.

8. The conditioned data visualizing system of claim 1, wherein: the workflow control further comprises:

a plurality of workflow control class entries, and

a plurality of workflow control subclass entries; and

for each of at least some of the workflow control entries, at least one of the plurality of workflow control subclass entries are associated with that workflow control class entry.

9. The conditioned data visualizing system of claim 8, wherein:  
for each of at least some of the workflow control class entries, at least  
some of the workflow control entries are associated with that workflow control class  
entry; and

5 for each of at least some of the workflow control subclass entries, at  
least some of the workflow control entries are associated with that workflow control  
subclass entry.

10. The conditioned data visualizing system of claim 9, wherein each of  
the workflow control subclass entries can be selectively opened or closed, such that,  
10 when a workflow control subclass entry is opened, the display manager displays any  
workflow control entries associated with that workflow control subclass entry in the  
workflow control, and when that workflow control subclass entry is closed, the  
display manager removes the workflow control entries associated with that workflow  
control subclass entry from a display of the workflow control.

15 11. The conditioned data visualizing system of claim 10, wherein the  
display manager displays the workflow control entries associated with an opened  
workflow control subclass entry in the workflow control in a nested manner under that  
opened workflow control subclass entry.

12. The conditioned data visualizing system of claim 9, wherein:

20 each workflow control class subentry has a selection icon associated  
with that workflow control subclass entry, and

when the selection icon associated with a particular workflow control  
subclass entry is selected, the display manager toggles that workflow control subclass  
entry between being open and being closed.

25 13. The conditioned data visualizing system of claim 1, further comprising  
an association properties table having a plurality of entries, each entry associated with  
one of the plurality of workflow control entries and containing data identifying the  
predetermined set of at least one dimension of the plurality of dimensions of the  
conditioned data and at least one measure of the plurality of measures of the  
30 conditioned data for that one of the plurality of workflow control entries.

14. The conditioned data visualizing system of claim 1, wherein the  
display manager generates, as the plurality of data visualization views, at least two  
single dimensional views and at least one multiple dimensional view based on the

predetermined set of at least one dimension and at least one measure associated with the selected workflow control entry.

15. The conditioned data visualizing system of claim 14, wherein the at least one multiple dimensional view comprises at least one of a multiscape view, a textual data view and a multiple dimensions view.

16. The conditioned data visualizing system of claim 15, wherein each workflow control entry is further associated with a predetermined set of enabled ones of the at least two single dimensional views, the multiscape view, the textual data view and the multiple dimensions view.

17. The conditioned data visualizing system of claim 14, wherein the predetermined set of at least one dimension and at least one measure comprises a first subset of at least one dimension associated with a first one of the at least two single dimensional views, a second subset of at least one dimension associated with a second one of the at least two single dimensional views.

18. The conditioned data visualizing system of claim 14, wherein the predetermined set of at least one dimension and at least one measure comprises a subset of at least one measure, the subset of at least one measure associated with each of the at least two single dimensional views and the at least one multiple dimensional views.

19. The conditioned data visualizing system of claim 14, wherein the display manager associates colors to values of the data visualized in the at least two single dimensional views and the at least one multiple dimensional views based on a selected one of the at least one dimension of the predetermined set of at least one dimension and at least one measure.

20. The conditioned data visualizing system of claim 1, wherein the workflow control is a tree-structured workflow control.

21. A graphical user interface for a conditioned data visualization system usable to view conditioned data having a plurality of dimensions and a plurality of measures, comprising:

a workflow control portion comprising a plurality of selectable workflow control entries, each workflow control entry associated with a predetermined set of at least one dimension of the plurality of dimensions of the

conditioned data and at least one measure of the plurality of measures of the conditioned data; and

a data visualization portion comprising a plurality of data visualization views, each data visualization view usable to visualize at least one dimension and at least one measure;

wherein, when a workflow control entry is selected, the plurality of data visualization views are automatically populated with portions of the conditioned data selected based on the predetermined set of at least one dimension and at least one measure associated with the selected workflow control entry.

22. The graphical user interface of claim 21, wherein:

the workflow control portion further comprises a plurality of workflow control class entries; and

for each of at least some of the workflow control class entries, at least some of the workflow control entries are organized under that workflow control class entry.

23. The graphical user interface of claim 22, wherein each of the workflow control class entries can be selectively opened or closed, such that, when a workflow control class entry is opened, any workflow control entries organized under that workflow control class entry are displayed in the workflow control portion, and when that workflow control class entry is closed, the workflow control entries organized under that workflow control class entry not displayed in the workflow control portion.

24. The graphical user interface of claim 23, wherein the workflow control entries organized under an opened workflow control class entry are displayed in the workflow control in a nested manner under that opened workflow control class entry.

25. The graphical user interface of claim 22, wherein:

the workflow control portion further comprises a plurality of selection icons, each selection icon associated with one of the workflow control class entries, and

when the selection icon associated with a particular workflow control class entry is selected, that workflow control class entry is toggled between being open and being closed.

26. The graphical user interface of claim 21, wherein:

the workflow control portion further comprises:

a plurality of workflow control class entries, and

a plurality of workflow control subclass entries; and

for each of at least some of the workflow control entries, at least one of the plurality of workflow control subclass entries are organized under that workflow control class entry.

27. The graphical user interface of claim 26, wherein:

for each of at least some of the workflow control class entries, at least some of the workflow control entries are organized under that workflow control class entry; and

for each of at least some of the workflow control subclass entries, at least some of the workflow control entries are organized under that workflow control subclass entry.

28. The graphical user interface of claim 27, wherein each of the workflow control subclass entries can be selectively opened or closed, such that, when a workflow control subclass entry is opened, any workflow control entries organized under that workflow control subclass entry are displayed in the workflow control portion, and when that workflow control subclass entry is closed, the workflow control entries organized under that workflow control subclass entry are not displayed in the workflow control portion.

29. The graphical user interface of claim 28, wherein the workflow control entries organized under an opened workflow control subclass entry are displayed in the workflow control portion in a nested manner under that opened workflow control subclass entry.

30. The graphical user interface of claim 27, wherein:

the workflow control portion further comprises a plurality of selection icons, each selection icon associated with one of the workflow control class entries or one of the workflow control subclass entries, and

when the selection icon associated with a particular workflow control class or subclass entry is selected, that workflow control class or subclass entry is toggled between being open and being closed.

31. The graphical user interface of claim 21, wherein the data visualization portion comprises, as the plurality of data visualization views, at least two single dimensional views and at least one multiple dimensional view.

32. The graphical user interface of claim 31, wherein the predetermined set of at least one dimension and at least one measure comprises a first subset of at least one dimension associated with a first one of the at least two single dimensional views, and a second subset of at least one dimension associated with a second one of the at least two single dimensional views.

33. The graphical user interface of claim 32, wherein each single dimensional view comprises a list box, the list box comprising the dimensions of the subset of at least one dimension associated with that single dimensional view, such that, when a dimension of the list box is selected, data corresponding to that dimension is displayed in that single dimensional view and at least the multiscape view of the at least one multiple dimensional view.

34. The graphical user interface of claim 31, wherein the predetermined set of at least one dimension and at least one measure comprises a subset of at least one measure, the subset of at least one measure associated with each of the at least two single dimensional views and the at least one multiple dimensional views.

35. The graphical user interface of claim 34, further comprising a measures list box, the measures list box comprising the measures of the subset of at least one measure associated with the selected workflow control entry, such that, when a measure of the measures list box is selected, data corresponding to that measure is displayed in the at least two single dimensional views and at least the multiscape view of the at least one multiple dimensional view.

36. The graphical user interface of claim 31, further comprising a color-by list box, the color-by list box comprising the at least one dimension associated with the selected workflow control entry, wherein colors are associated to values of the data visualized in the at least two single dimensional views and the at least one multiple dimensional views based on a selected one of the at least one dimension of the color-by list box.

37. The graphical user interface of claim 31, wherein the at least one multiple dimensional view comprises at least one of a multiscape view, a textual data view and a multiple dimensions view.

38. The graphical user interface of claim 37, wherein the data visualization portion displays at most one of the multiscape view, the textual data view and the multiple dimensions view at any time.

39. The graphical user interface of claim 37, wherein each workflow control entry is further associated with a predetermined set of enabled ones of the at least two single dimensional views, the multiscape view, the textual data view and the multiple dimensions view.

40. The graphical user interface of claim 37, wherein:  
the multiscape view comprises a three-dimensional landscape view;  
a first axis of the three-dimensional landscape view is associated with the dimension currently displayed in a first one of the single dimensional views;  
a second axis of the three-dimensional landscape view is associated with the dimension currently displayed in a second one of the single dimensional views; and

a third axis of the three-dimensional landscape view is associated with the measure currently displayed in the at least two single dimensional views;

41. The graphical user interface of claim 37, wherein:  
the textual data view comprises a plurality of columns, each column associated with one of the at least one dimension associated with the selected workflow control entry;  
each column displays at least one of textual and numerical data for the associated dimension; and  
at least some of the columns has a column header having a sorting icon, such that, when the sorting icon is selected, the dimension associated with that column becomes a primary sort dimension.

42. The graphical user interface of claim 41, wherein, when the sorting icon of a column is selected, a sort order of the dimension associated with that column is toggled between a first order and a second order.

43. The graphical user interface of claim 41, wherein, when the sorting icon of a column is selected, the dimension associated with an immediately previously selected column becomes a second sort dimension.



44. The graphical user interface of claim 41, wherein the textual data view further comprises a window having a vertical scroll bar having a scroll bar element and a pair of scale elements.

45. The graphical user interface of claim 44, wherein a distance between the pair of scale elements defines a scale factor between a vertical extent of the window of the textual data view and a vertical length of the data displayed in the plurality of columns of the textual data view.

46. The graphical user interface of claim 45, wherein a size of each data element in each column of the textual data view is determined based on the scale factor.

47. The graphical user interface of claim 41, wherein, for each at least some of the at least two single dimensional views, one column of the textual data view displays data of the dimension currently displayed in that single dimensional view.

48. The graphical user interface of claim 37, wherein:  
the multiple dimensional view comprises a plurality of columns, each column associated with one of the at least one dimension associated with the selected workflow control entry;

each column displays at least one of textual and numerical data for the associated dimension;

at least some of the columns displaying numerical data display a relative value for each value of the numerical data; and

at least some of the columns has a column header having a sorting icon, such that, when the sorting icon is selected, the dimension associated with that column becomes a primary sort dimension.

49. The graphical user interface of claim 48, wherein, when the sorting icon of a column is selected, a sort order of the dimension associated with that column is toggled between a first order and a second order.

50. The graphical user interface of claim 48, wherein, when the sorting icon of a column is selected, the dimension associated with an immediately previously selected column becomes a second sort dimension.

51. The graphical user interface of claim 48, wherein, for each at least some of the at least two single dimensional views, one column of the multiple

dimensional view displays data of the dimension currently displayed in that single dimensional view.

52. The graphical user interface of claim 31, wherein, when a portion of data displayed in one of the at least two single dimensional views and the displayed one of the at least one multiple dimensional view displayed in the data visualization portion is selected and other data is deselected, data in the other ones of the at least two single dimensional views and the displayed one of the at least one multiple dimensional view displayed in the data visualization portion corresponding to the selected data is selected, and any other displayed data in the other ones of the at least two single dimensional views and the displayed one of the at least one multiple dimensional view displayed in the data visualization portion is deselected.

53. The graphical user interface of claim 52, wherein the deselected data is displayed using at least a first color and the selected data is displayed using colors other than the at least first color.

54. The graphical user interface of claim 52, wherein the selected data is displayed in color and the deselected data is not displayed.

55. The graphical user interface of claim 21, wherein the workflow control is a tree-structured workflow control.

56. A method for visualizing conditioned data, comprising:  
inputting a set of conditioned data having a plurality of dimensions and a plurality of measures;

displaying a workflow control view comprising a plurality of selectable workflow control entries;

associating, for each workflow control entry, that workflow control entry with a predetermined set comprising at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data;

receiving an input selecting one of the selectable workflow control entries;

selecting a portion of the conditioned data based on the predetermined set associated with the selected workflow entry; and

generating and displaying at least one of a plurality of data visualization views based on the selected portion of the conditioned data.

57. The method of claim 56, wherein:

the workflow control view further comprises a plurality of workflow control class entries; and

for each of at least some of the workflow control class entries, at least some of the workflow control entries are organized under that workflow control class entry.

58. The method of claim 57, further comprising:

selecting a workflow control class entry; and

in response to selecting that workflow control class entry, toggling a display state of that workflow control class entry between open and closed.

59. The method of claim 58, wherein:

toggling the display state of that workflow control class entry to open comprises displaying any workflow control entries organized under that workflow control class entry in the workflow control view; and

toggling the display state of that workflow control class entry to closed comprises not displaying the workflow control entries organized under that workflow control class entry in the workflow control view.

60. The method of claim 59, wherein displaying the workflow control entries organized under an opened workflow control class entry comprises displaying those workflow control entries in a nested manner under that opened workflow control class entry.

61. The method of claim 58, wherein selecting a workflow control class entry comprises selecting a selection icon associated with that workflow control class entry.

62. The method of claim 56, wherein:

the workflow control view further comprises:

a plurality of workflow control class entries, and

a plurality of workflow control subclass entries; and

for each of at least some of the workflow control class entries, at least some of the workflow control entries are organized under that workflow control class entry; and

for each of at least some of the workflow control subclass entries, at least some of the workflow control entries are organized under that workflow control subclass entry.

5           63.     The method of claim 62, further comprising:  
              selecting a workflow control class or subclass entry; and  
              in response to selecting that workflow control class or subclass entry,  
toggling a display state of that workflow control class or subclass entry between open and closed.

10           64.     The method of claim 63, wherein:  
              toggling the display state of that workflow control class entry to open  
comprises displaying any workflow control entries or workflow control subclass  
entries organized under that workflow control class entry in the workflow control  
view; and  
              toggling the display state of that workflow control class entry to closed  
15           comprises not displaying the workflow control entries and workflow control subclass  
entries organized under that workflow control class entry in the workflow control  
view.

20           65.     The method of claim 63, wherein:  
              toggling the display state of that workflow control subclass entry to  
open comprises displaying any workflow control entries organized under that  
workflow control subclass entry in the workflow control view; and  
              toggling the display state of that workflow control subclass entry to  
closed comprises not displaying the workflow control entries organized under that  
workflow control subclass entry in the workflow control view.

25           66.     The method of claim 63, wherein displaying the workflow control  
subclass entries organized under an opened workflow control class entry comprises  
displaying those workflow control subclass entries in a nested manner under that  
opened workflow control class entry.

30           67.     The method of claim 63, wherein displaying the workflow control  
entries organized under an opened workflow control subclass entry comprises  
displaying those workflow control entries in a nested manner under that opened  
workflow control subclass entry.

68. The method of claim 63, wherein selecting a workflow control subclass entry comprises selecting a selection icon associated with that workflow control subclass entry.

69. The method of claim 56, wherein generating and displaying the plurality of data visualization views comprises generating and displaying at least two single dimensional views and at least one multiple dimensional view.

70. The method of claim 69, wherein the predetermined set of at least one dimension and at least one measure comprises a first subset of at least one dimension associated with a first one of the at least two single dimensional views, and a second subset of at least one dimension associated with a second one of the at least two single dimensional views.

71. The method of claim 70, wherein generating and displaying a single dimensional view comprises generating and displaying a list box based on the dimensions of the subset of at least one dimension associated with that single dimensional view.

72. The method of claim 71, further comprising, in response to a selection of a dimension of the list box, displaying data corresponding to the selected dimension in the corresponding single dimensional view and at least a multiscape view of the at least one multiple dimensional view.

73. The method of claim 69, wherein the predetermined set of at least one dimension and at least one measure comprises a subset of at least one measure, the subset of at least one measure associated with each of the at least two single dimensional views and the at least one multiple dimensional views.

74. The method of claim 73, wherein generating and displaying the plurality of data visualization views comprises generating and displaying a list box based on the subset of at least one measure associated with the selected workflow control entry.

75. The method of claim 74, further comprising, in response to a selection of a measure of the list box, displaying data corresponding to the selected measure in the at least two single dimensional views and at least a multiscape view of the at least one multiple dimensional view.

76. The method of claim 69, wherein the predetermined set of at least one dimension and at least one measure comprises a subset of at least two dimensions,

each dimension of the subset associated with at least one of the at least two single dimensional views.

77. The method of claim 76, wherein generating and displaying a single dimensional view comprises generating and displaying a list box based on the dimensions of the subset of at least two dimensions associated with the at least two single dimensional view.

78. The method of claim 77, further comprising, in response to a selection of a dimension of the list box, associating colors to values of the data visualized in the at least two single dimensional views and the at least one multiple dimensional view based on the selected dimension.

79. The method of claim 69, wherein generating and displaying at least one multiple dimensional view comprises generating and displaying at least one of a multiscape view, a textual data view and a multiple dimensions view.

80. The method of claim 79, wherein generating and displaying at least one of the multiscape view, the textual data view and the multiple dimensions view comprises displaying at most one of the multiscape view, the textual data view and the multiple dimensions view at any time.

81. The method of claim 79, wherein generating and displaying at least one of the multiscape view, the textual data view and the multiple dimensions view comprises selectively generating each of the multiscape view, the textual data view and the multiple dimensions view based on the selected workflow control entry.

82. The method of claim 79, wherein generating the multiscape view comprises:

generating a three-dimensional landscape view;  
 associating a first axis of the three-dimensional landscape view with the dimension currently displayed in a first one of the single dimensional views;  
 associating a second axis of the three-dimensional landscape view with the dimension currently displayed in a second one of the single dimensional views;  
 and  
 associating a third axis of the three-dimensional landscape view with the measure currently displayed in the at least two single dimensional views;

83. The method of claim 79, wherein generating the textual data view comprises:

generating a plurality of columns, at least some of the columns has a column header having a sorting icon; and

associating each column with one of the at least one dimension associated with the selected workflow control entry, where each column displays at least one of textual and numerical data for the associated dimension; and

84. The method of claim 79, further comprising, in response to a selection of a sorting icon of a column, sorting the data values displayed in the plurality of columns using the dimension associated with that column as a primary sort dimension.

85. The method of claim 84, further comprising, in response to a further selection of the sorting icon of that column, toggling a sort order data values of the dimension associated with that column between a first order and a second order.

86. The method of claim 84, further comprising, in response to the selection of the sorting icon of that column, sorting the data values displayed in the plurality of columns using the dimension associated with an immediately previously selected column as a second sort dimension.

87. The method of claim 83, wherein displaying the textual data view comprises displaying the plurality of columns in a window having a vertical scroll bar having a scroll bar element and a pair of scale elements.

88. The method of claim 87, further comprising defining a scale factor between a vertical extent of the window of the textual data view and a vertical length of the data displayed in the plurality of columns of the textual data view for displaying the data values in the plurality of columns in the window based on a distance between the pair of scale elements.

89. The method of claim 88, further comprising determining a size of each data element in each column of the textual data view based on the scale factor.

90. The method of claim 83, further comprising, for each of at least some of the at least two single dimensional views, displaying in one column of the textual data view data of the dimension currently displayed in that single dimensional view.

91. The method of claim 79, wherein generating the multiple dimensional view comprises:

generating a plurality of columns, at least some of the columns having a column header having a sorting icon;

associating each column with one of the at least one dimension associated with the selected workflow control entry, each column displaying at least one of textual and numerical data for the associated dimension;

5 92. The method of claim 91, wherein displaying the multiple dimensional view comprises displaying, for at least some of the columns displaying numerical data, a relative value for each value of the numerical data.

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10 92. The method of claim 91, further comprising, in response to a selection of a sorting icon of a column, sorting the data values displayed in the plurality of columns using the dimension associated with that column as a primary sort dimension.

94. The method of claim 93, further comprising, in response to a further selection of the sorting icon of that column, toggling a sort order data values of the dimension associated with that column between a first order and a second order.

15 95. The method of claim 93, further comprising, in response to the selection of the sorting icon of that column, sorting the data values displayed in the plurality of columns using the dimension associated with an immediately previously selected column as a second sort dimension.

20 96. The method of claim 91, further comprising, for each at least some of the at least two single dimensional views, displaying in one column of the multiple dimensional view data of the dimension currently displayed in that single dimensional view.

25 97. The method of claim 69, further comprising:  
selecting a portion of data displayed in one of the at least two single dimensional views and the displayed one of the at least one multiple dimensional view displayed in the data visualization portion and deselecting other data; and

30 in response, selecting data in the other ones of the at least two single dimensional views and the displayed one of the at least one multiple dimensional view displayed in the data visualization portion corresponding to the selected data, and deselecting any other displayed data in the other ones of the at least two single dimensional views and the displayed one of the at least one multiple dimensional view.



98. ~~97~~ The method of claim 97, wherein displaying the selected and deselected data comprises displaying the deselected data using at least a first color and displaying the selected data using colors other than the at least first color.

5 99. ~~98~~ The method of claim 97, further comprising removing the deselected data from the at least two single dimensional views and the displayed one of the at least one multiple dimensional view, wherein displaying the selected data comprises displaying the selected data in color.

10 100. ~~99~~ A conditioned data report generating system usable to generate at least one report from conditioned data having a plurality of dimensions and a plurality of measures, comprising:

a report selection control having a plurality of report selection control entries, each report selection control entry associated with a predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data; and

15 a display manager capable of displaying, on a display device, the report selection control;

a report generation manager capable of generating at least one different type of report;

20 wherein, when a report selection entry is selected for generation of a corresponding report, the report generation manager accesses a portion of the conditioned data based on the predetermined set associated with the selected report selection entry and generates one of the at least one different type of report, each generated report generated based on at least a subset of the accessed portion of the conditioned data.

25 101. ~~100~~ The conditioned data report generating system of claim 100, wherein: the report selection control further comprises a plurality of report selection control class entries; and

30 for each of at least some of the report selection control class entries, at least some of the report selection control entries are associated with that report selection control class entry.

102. The conditioned data report generating system of claim 101, wherein each of the report selection control class entries can be selectively opened or closed, such that, when a report selection control class entry is opened, the display manager

displays any report selection control entries associated with that report selection control class entry in the report selection control, and when that report selection control class entry is closed, the display manager removes the report selection control entries associated with that report selection control class entry from a display of the report selection control.

103. ~~103.~~ The conditioned data report generating system of claim 102, wherein the display manager displays the report selection control entries associated with an opened report selection control class entry in the report selection control in a nested manner under that opened report selection control class entry.

104. ~~104.~~ The conditioned data report generating system of claim 101, wherein: each report selection control class entry has a selection icon associated with that report selection control class entry, and when the selection icon associated with a particular report selection control class entry is selected, the display manager toggles that report selection control class entry between being open and being closed.

105. ~~105.~~ The conditioned data report generating system of claim 101, further comprising an association properties table having a plurality of entries, each entry associated with one of the plurality of report selection control entries and containing data identifying the predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data for that one of the plurality of report selection control entries and data identifying the report selection control class entry to which that one of the plurality of report selection control entries is associated.

106. ~~106.~~ The conditioned data report generating system of claim 105, further comprising means for creating a new entry in the association properties table, for creating a new report selection control entry that is associated with the new entry in the association properties table and with a predetermined one of the plurality of report selection control class entries, and for adding data to the new entry identifying a new predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data based on the dimensions and measures of the conditioned data currently displayed on the display by the display manager.

107. ~~107.~~ The conditioned data report generating system of claim 100, wherein:  
the report selection control further comprises:

a plurality of report selection control class entries, and  
a plurality of report selection control subclass entries; and

5 for each of at least some of the report selection control entries, at least one of the plurality of report selection control subclass entries are associated with that report selection control class entry.

108. ~~108.~~ The conditioned data report generating system of claim 107, wherein:

10 for each of at least some of the report selection control class entries, at least some of the report selection control entries are associated with that report selection control class entry; and

for each of at least some of the report selection control subclass entries, at least some of the report selection control entries are associated with that report selection control subclass entry.

15 109. ~~109.~~ The conditioned data report generating system of claim 108, wherein each of the report selection control subclass entries can be selectively opened or closed, such that, when a report selection control subclass entry is opened, the display manager displays any report selection control entries associated with that report selection control subclass entry in the report selection control, and when that report selection control subclass entry is closed, the display manager removes the report selection control entries associated with that report selection control subclass entry from a display of the report selection control.

20 110. ~~110.~~ The conditioned data report generating system of claim 109, wherein the display manager displays the report selection control entries associated with an opened report selection control subclass entry in the report selection control in a nested manner under that opened report selection control subclass entry.

25 111. ~~111.~~ The conditioned data report generating system of claim 108, wherein: each report selection control class subentry has a selection icon associated with that report selection control subclass entry, and

30 when the selection icon associated with a particular report selection control subclass entry is selected, the display manager toggles that report selection control subclass entry between being open and being closed.

112. The conditioned data report generating system of claim 100, further comprising an association properties table having a plurality of entries, each entry associated with one of the plurality of report selection control entries and containing data identifying the predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data for that one of the plurality of report selection control entries.

113. The conditioned data report generating system of claim 100, wherein the report generation manager generates, as the at least one different type of report, at least one of a first type report and a second type report, the first type report comprising a single dimensional view, the second type report comprising at least two single dimensional views and at least one multiple dimensional view.

114. The conditioned data report generating system of claim 113, wherein, in response to an input selecting the first type report, the report generation manager generates, for the selected report generation control entry, at least one first type report, each first type report based on a different dimension of the predetermined set of at least one dimension associated with the selected report generation control entry and a selected measure of the predetermined set of at least one measure associated with the selected report selection control entry.

115. The conditioned data report generating system of claim 114, wherein each first type report comprises the single dimensional view and a table relating each value of the particular one of the predetermined set of at least one dimension with an appearance of a portion of the single dimensional view corresponding to that value.

116. The conditioned data report generating system of claim 115, wherein the appearance is a color.

117. The conditioned data report generating system of claim 114, wherein, in response to the input selecting the first type report, the report generation manager generates, for the selected report generation control entry, the at least one first type report based on a currently selected portion of the conditioned data.

118. The conditioned data report generating system of claim 113, wherein, in response to an input selecting the second type report, the report generation manager generates, for the selected report generation control entry, at least one second type report, each second type report based on a different subset of at least two dimensions

of the predetermined set of at least one dimension associated with the selected report generation control entry and a selected measure of the predetermined set of at least one measure associated with the selected report selection control entry.

119. <sup>8/1</sup> The conditioned data report generating system of claim 118, wherein each second type report comprises the two single dimensional views and a pair of tables, each table relating each value of the particular one of the subset of two dimension with an appearance of a portion corresponding to that value of a single dimensional view corresponding to that dimension.

120. <sup>1/1</sup> The conditioned data report generating system of claim 119, wherein the appearance is a color.

121. <sup>2/1</sup> The conditioned data report generating system of claim 118, wherein, in response to the input selecting the second type report, the report generation manager generates, for the selected report generation control entry, the at least one second type report based on a currently selected portion of the conditioned data.

122. <sup>3/1</sup> The conditioned data report generating system of claim 113, further comprising a report display selection control having at least one report display selection control entry, each report display selection control entry associated with one of the at least one report generated by the report generation manager, wherein:

in response to the report generation manager generating the at least one first or second type report, the display manager displays the report display selection control and a predetermined one of the at least one first or second type report; and

in response to one of the at least one report display selection control entry being selected, the display manager displays the first or second type report associated with that selected report display selection control.

123. <sup>4/1</sup> The conditioned data report generating system of claim 113, wherein the at least one multiple dimensional view comprises at least one of a multiscape view, a textual data view and a multiple dimensions view.

124. <sup>5/1</sup> The conditioned data report generating system of claim 100, further comprising a report option selection control having at least one report option selector, wherein the report generation manager generates the at least one first or second type report further based on at least one report option selected using the at least one report option selector.

125. ~~The conditioned data report generating system of claim 124, wherein the report option selection control includes a measure selector, the measure selector permitting one of the predetermined set of at least one measure to be selected, the report generation manager generating the at least one different type of report further based on the selected measure.~~

126. ~~The conditioned data report generating system of claim 124, wherein the report option selection control includes a dimension selector, the dimension selector permitting one of the predetermined set of at least one dimension to be selected, wherein the report generation manager associates colors to values of the data contained in the at least one different type of report based on the selected dimension.~~

127. ~~The conditioned data report generating system of claim 124, wherein the report option selection control includes a report type selector, the report type selector permitting one of the at least one different type of report to be selected, the report generation manager generating the at least one report further based on the selected report type.~~

128. ~~The conditioned data report generating system of claim 124, wherein the report option selection control includes a data context selector, the data context selector permitting one of a predetermined set of at least two data contexts to be selected, the report generation manager generating the at least one different type of report further based on the selected data context.~~

129. ~~The conditioned data report generating system of claim 128, wherein the predetermined set of at least two data contexts comprises at least two of a current selection state context, a currently displayed data context and an all data context.~~

130. ~~The conditioned data report generating system of claim 100, wherein the report selection control is a tree-structured report selection control.~~

131. ~~A graphical user interface for a conditioned data report generating system usable to generate reports from conditioned data having a plurality of dimensions and a plurality of measures, comprising:~~

~~a report selection control portion, comprising a plurality of selectable report selection control entries, each report selection control entry associated with a predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data;~~

wherein, in response to an input indicating at least one report is to be generated, at least one report is generated, based on a selected report selection control entry, using portions of the conditioned data selected based on the predetermined set of at least one dimension and at least one measure associated with the selected report selection control entry.

132. ~~4~~ The graphical user interface of claim 131, wherein:

the report selection control portion further comprises a plurality of report selection control class entries; and

for each of at least some of the report selection control class entries, at least some of the report selection control entries are organized under that report selection control class entry.

133. ~~2~~ The graphical user interface of claim 132, wherein each of the report selection control class entries can be selectively opened or closed, such that, when a report selection control class entry is opened, any report selection control entries organized under that report selection control class entry are displayed in the report selection control portion, and when that report selection control class entry is closed, the report selection control entries organized under that report selection control class entry not displayed in the report selection control portion.

134. ~~2~~ The graphical user interface of claim 133, wherein the report selection control entries organized under an opened report selection control class entry are displayed in the report selection control in a nested manner under that opened report selection control class entry.

135. ~~2~~ The graphical user interface of claim 132, wherein:

the report selection control portion further comprises a plurality of selection icons, each selection icon associated with one of the report selection control class entries, and

when the selection icon associated with a particular report selection control class entry is selected, that report selection control class entry is toggled between being open and being closed.

136. ~~2~~ The graphical user interface of claim 131, wherein:

the report selection control portion further comprises:

a plurality of report selection control class entries, and

a plurality of report selection control subclass entries; and  
 for each of at least some of the report selection control entries, at least one of the plurality of report selection control subclass entries are organized under that report selection control class entry.

5 137. ~~137.~~ The graphical user interface of claim 136, wherein:

for each of at least some of the report selection control class entries, at least some of the report selection control entries are organized under that report selection control class entry; and

10 for each of at least some of the report selection control subclass entries, at least some of the report selection control entries are organized under that report selection control subclass entry.

15 138. ~~138.~~ The graphical user interface of claim 137, wherein each of the report selection control subclass entries can be selectively opened or closed, such that, when a report selection control subclass entry is opened, any report selection control entries organized under that report selection control subclass entry are displayed in the report selection control portion, and when that report selection control subclass entry is closed, the report selection control entries organized under that report selection control subclass entry are not displayed in the report selection control portion.

20 139. ~~139.~~ The graphical user interface of claim 138, wherein the report selection control entries organized under an opened report selection control subclass entry are displayed in the report selection control portion in a nested manner under that opened report selection control subclass entry.

25 140. ~~140.~~ The graphical user interface of claim 137, wherein:  
 the report selection control portion further comprises a plurality of selection icons, each selection icon associated with one of the report selection control class entries or one of the report selection control subclass entries, and  
 when the selection icon associated with a particular report selection control class or subclass entry is selected, that report selection control class or subclass entry is toggled between being open and being closed.

30 141. ~~141.~~ The graphical user interface of claim 131, further comprising a report option selection portion comprising at least one report option selector, wherein, in response to an input indicating at least one report is to be generated, the at least one



report is generated further based on at least one report option selected using the at least one report option selector of the report option selection portion.

142. The graphical user interface of claim 141, wherein the report option selection portion includes a measure selector, the measure selector permitting one of the predetermined set of at least one measure to be selected, the at least one report generated further based on the selected measure.

143. The graphical user interface of claim 142, wherein measure selector comprises a list box, the list box comprising the measures of the subset of at least one measure associated with the selected report selection control entry.

144. The graphical user interface of claim 141, wherein the report option selection portion includes a dimension selector, the dimension selector permitting one of the predetermined set of at least one dimension to be selected, colors associated to values of the data contained in the at least one report based on the selected dimension.

145. The graphical user interface of claim 144, wherein dimension selector comprises a list box, the list box comprising the dimensions of the subset of at least one dimension associated with the selected report selection control entry.

146. The graphical user interface of claim 141, wherein the report option selection portion includes a report type selector, the report type selector permitting one of a plurality of different types of report to be selected, the at least one report generated further based on the selected report type.

147. The graphical user interface of claim 146, wherein the report type selector comprises a plurality of radio buttons, each radio button associated with one of the plurality of different types of reports.

148. The graphical user interface of claim 141, wherein the report option selection portion includes a data context selector, the data context selector permitting one of a predetermined set of a plurality of data contexts to be selected, the at least one report generated further based on the selected data context.

149. The graphical user interface of claim 148, wherein the predetermined set of at least two data contexts comprises at least two of a current selection state context, a currently displayed data context and an all data context.

150. The graphical user interface of claim 148, wherein the data context selector comprises a plurality of radio buttons, each radio button associated with one of the plurality of data contexts.

151. ~~151.~~ The graphical user interface of claim 131, further comprising a report display screen, comprising:

a report display selection portion having at least one report display selection control entry, each report display selection control entry associated with one of the generated at least one report; and

a data visualization portion, wherein at least one data visualization view is displayed for a displayed one of the generated at least one report.

152. ~~152.~~ The graphical user interface of claim 151, wherein, in response to an input selecting a first type report, the data visualization portion comprises a single dimensional view and a table portion.

153. ~~153.~~ The graphical user interface of claim 152, wherein each report display selection control entry is associated with a different first type report that is based on a different dimension of the predetermined set of at least one dimension associated with the selected report generation control entry and a selected measure of the predetermined set of at least one measure associated with the selected report selection control entry.

154. ~~154.~~ The graphical user interface of claim 152, wherein the table portion comprises a table relating each value of a dimension with an appearance of a portion of the single dimensional view corresponding to that value.

155. ~~155.~~ The graphical user interface of claim 154, wherein the appearance is a color.

156. ~~156.~~ The graphical user interface of claim 151, wherein, in response to an input selecting a second type report, the data visualization portion comprises a multiple dimensional view, a plurality of single dimensional views, and a plurality of table portions.

157. ~~157.~~ The graphical user interface of claim 156, wherein each report display selection control entry is associated with a different second type report that is based on a different set of a plurality of dimension of the predetermined set of at least one dimension associated with the selected report generation control entry and a selected measure of the predetermined set of at least one measure associated with the selected report selection control entry.

158. ~~158.~~ The graphical user interface of claim 156, wherein each table portion is associated with one of the plurality of single dimensional views and comprises a table

relating each value of a dimension with an appearance of a portion of that single dimensional view corresponding to that value.

159. ~~159.~~ The graphical user interface of claim 158, wherein the appearance is a color.

5 160. ~~160.~~ The graphical user interface of claim 156, wherein the multiple dimensional view comprises at least one of a multiscape view, a textual data view and a multiple dimensions view.

161. ~~161.~~ The graphical user interface of claim 160, wherein:

the multiscape view comprises a three-dimensional landscape view;

10 a first axis of the three-dimensional landscape view is associated with the dimension displayed in a first one of the single dimensional views;

a second axis of the three-dimensional landscape view is associated with the dimension displayed in a second one of the single dimensional views; and

15 a third axis of the three-dimensional landscape view is associated with the measure currently displayed in the first and second single dimensional views;

162. ~~162.~~ A method for generating reports based on conditioned data, comprising:

inputting a set of conditioned data having a plurality of dimensions and a plurality of measures;

20 displaying a report selection control view comprising a plurality of selectable report selection control entries;

25 associating, for each report selection control entry, that report selection control entry with a predetermined set of at least one dimension of the plurality of dimensions of the conditioned data and at least one measure of the plurality of measures of the conditioned data;

receiving an input selecting one of the selectable report selection control entries;

selecting a portion of the conditioned data based on the predetermined set associated with the selected report selection entry; and

30 generating at least one report based at least on the selected portion of the conditioned data.

163. ~~163.~~ The method of claim 162, wherein:

the report selection control view further comprises a plurality of report selection control class entries; and

for each of at least some of the report selection control class entries, at least some of the report selection control entries are organized under that report selection control class entry.

164. ~~The~~ The method of claim 163, further comprising:

selecting a report selection control class entry; and

in response to selecting that report selection control class entry, toggling a display state of that report selection control class entry between open and closed.

165. ~~The~~ The method of claim 164, wherein:

toggling the display state of that report selection control class entry to open comprises displaying any report selection control entries organized under that report selection control class entry in the report selection control view; and

toggling the display state of that report selection control class entry to closed comprises not displaying the report selection control entries organized under that report selection control class entry in the report selection control view.

166. ~~The~~ The method of claim 160, wherein displaying the report selection control entries organized under an opened report selection control class entry comprises displaying those report selection control entries in a nested manner under that opened report selection control class entry.

167. ~~The~~ The method of claim 164, wherein selecting a report selection control class entry comprises selecting a selection icon associated with that report selection control class entry.

168. ~~The~~ The method of claim 162, wherein:

the report selection control view further comprises:

a plurality of report selection control class entries, and

a plurality of report selection control subclass entries; and

for each of at least some of the report selection control class entries, at least some of the report selection control entries are organized under that report selection control class entry; and

for each of at least some of the report selection control subclass entries, at least some of the report selection control entries are organized under that report selection control subclass entry.

169. ~~169~~ The method of claim 168, further comprising:

5 selecting a report selection control class or subclass entry; and  
in response to selecting that report selection control class or subclass entry, toggling a display state of that report selection control class or subclass entry between open and closed.

170. ~~170~~ The method of claim 169, wherein:

10 toggling the display state of that report selection control class entry to open comprises displaying any report selection control entries or report selection control subclass entries organized under that report selection control class entry in the report selection control view; and

15 toggling the display state of that report selection control class entry to closed comprises not displaying the report selection control entries and report selection control subclass entries organized under that report selection control class entry in the report selection control view.

171. ~~171~~ The method of claim 169, wherein:

20 toggling the display state of that report selection control subclass entry to open comprises displaying any report selection control entries organized under that report selection control subclass entry in the report selection control view; and

toggling the display state of that report selection control subclass entry to closed comprises not displaying the report selection control entries organized under that report selection control subclass entry in the report selection control view.

25 172. ~~172~~ The method of claim 169, wherein displaying the report selection control subclass entries organized under an opened report selection control class entry comprises displaying those report selection control subclass entries in a nested manner under that opened report selection control class entry.

30 173. ~~173~~ The method of claim 169, wherein displaying the report selection control entries organized under an opened report selection control subclass entry comprises displaying those report selection control entries in a nested manner under that opened report selection control subclass entry.

174. The method of claim 169, wherein selecting a report selection control subclass entry comprises selecting a selection icon associated with that report selection control subclass entry.

175. The method of claim 162, further comprising:  
5 displaying a report option selection view comprising at least one report option selector; and  
receiving at least one input selecting at least one report option of at least one report option selector;  
wherein generating the at least one report based on the selected portion of the  
10 conditioned data comprises generating the at least one report further based on the selected at least one report option.

176. The method of claim 175, wherein:  
the at least one report option selector includes a measure selector;  
receiving the at least one input selecting at least one report option of at  
15 least one report option selector comprises selecting one of the predetermined set of at least one measure using the measure selector; and  
generating the at least one report based on the selected portion of the conditioned data comprises generating the at least one report further based on the selected measure.

177. The method of claim 175, wherein:  
the at least one report option selector includes a dimension selector;  
receiving the at least one input selecting at least one report option of at  
20 least one report option selector comprises selecting one of the predetermined set of at least one dimension using the dimension selector; and  
generating the at least one report based on the selected portion of the conditioned data comprises associating colors to values of the data contained in the at least one report based on the selected dimension.

178. The method of claim 175, wherein:  
the at least one report option selector includes a data context selector  
30 permitting one of a plurality of data contexts to be selected;  
receiving the at least one input selecting at least one report option of at least one report option selector comprises selecting one of the plurality of different data contexts using the data context selector; and

generating the at least one report based on the selected portion of the conditioned data comprises generating the at least one report further based on the selected data context.

179. ~~179.~~ The method of claim 175, wherein:

the at least one report option selector includes a report type selector permitting one of a plurality of different types of report to be selected;

receiving the at least one input selecting at least one report option of at least one report option selector comprises selecting one of the plurality of different types of report using the report type selector; and

generating the at least one report based on the selected portion of the conditioned data comprises generating the at least one report further based on the selected report type.

180. ~~180.~~ The method of claim 162, further comprising displaying the at least one generated report.

181. ~~181.~~ The method of claim 180, wherein displaying the at least one report comprises:

displaying a report display selection view having at least one report display selection control entry, each report display selection control entry associated with one of the generated at least one report; and

displaying the at least one generated report in a data visualization view.

182. ~~182.~~ The method of claim 181, wherein, in response to receiving an input selecting a first type report, displaying the at least one generated report in the data visualization view comprises displaying at least one first type report comprising a single dimensional view and a table portion in the data visualization portion.

183. ~~183.~~ The method of claim 182, wherein, in response to receiving an input selecting a first type report, each report display selection control entry is associated with a different first type report that is based on a different dimension of the predetermined set of at least one dimension associated with the selected report generation control entry and a selected measure of the predetermined set of at least one measure associated with the selected report selection control entry.

184. The method of claim 182, wherein displaying the table portion comprises displaying a table relating each value of a dimension with an appearance of a portion of the single dimensional view corresponding to that value.

185. ~~185~~ The method of claim 184, wherein the appearance is a color.

186. ~~186~~ The method of claim 181, wherein, in response to an input selecting a second type report, displaying the at least one generated report in the data visualization view comprises displaying at least one second type report comprising a multiple dimensional view, a plurality of single dimensional views, and a plurality of table portions in the data visualization portion.

187. ~~187~~ The method of claim 182, wherein, in response to receiving an input selecting a second type report, each report display selection control entry is associated with a different second type report that is based on a different set of at least two dimensions of the predetermined set of at least one dimension associated with the selected report generation control entry and a selected measure of the predetermined set of at least one measure associated with the selected report selection control entry.

188. ~~188~~ The method of claim 187, wherein displaying the plurality of table portions comprises displaying, for each of the plurality of single dimensional views, a table relating each value of a dimension with an appearance of a portion of that single dimensional view corresponding to that value.

189. ~~189~~ The method of claim 188, wherein the appearance is a color.

190. ~~190~~ The method of claim 186, wherein the multiple dimensional view comprises at least one of a multiscape view, a textual data view and a multiple dimensions view.

191. ~~191~~ The method of claim 190, wherein displaying the multiscape view as the multiple dimensional view comprises displaying a three-dimensional landscape view

192. ~~192~~ The method of claim 191, wherein displaying the three-dimensional landscape view comprises:

associating a first axis of the three-dimensional landscape view with the dimension displayed in a first one of the single dimensional views;

associating a second axis of the three-dimensional landscape view with the dimension displayed in a second one of the single dimensional views; and

associating a third axis of the three-dimensional landscape view with the measure displayed in the first and second single dimensional views.

193. ~~193~~ A web site activity log data managing system that manages web site activity data for a web site, comprising:



at least one memory, each memory usable to store at least one web site activity log;

at least one web site server, each web site server usable to receive requests from clients for web pages of the web site stored on that web site serve, to  
5 store information about the received requests in a corresponding one of the at least one web site activity log for that web site server, and to transmit the requested web pages and appended information to the clients; and

at least one server/log interface, each server/log interface provided between an associated one of the at least one web site server and the corresponding  
10 web site activity log;

wherein, for each server/log interface, upon the associated web site server receiving a web page request, that server/log interface is usable to analyze the information to be stored about the received request to determine if the received request is a first request of a new visitor to the web site, and, upon determining that  
15 the received request is the first request of a new visitor to the web site, that server/log interface is usable to add an information string to the information to be stored about that received request and to the appended information to be transmitted with the web page corresponding to the received request, such that, when the associated web site server transmits the corresponding web page and appended information, both the  
20 appended information and the stored information about that received request include the information string.

194. The web site activity log data managing system of claim 193, wherein, when the at least one web site server receives a subsequent web page request from a current visitor to the web site that contains the appended information, the at least one  
25 server log interface stores the subsequent web page request and the appended information in one of the at least one web site activity log, such that, when the at least one web site activity log is analyzed, the information stored in the at least one web site activity log about the first web page request from a particular visitor can be associated with the information stored in the at least one web site activity log about subsequent  
30 web page requests from that visitor.